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EXAMINER

LEE, SHUN K

ART UNIT PAPER NUMBER

2884

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/806,457	Applicant(s) CASPERSEN, CHRISTIAN	
	Examiner Shun Lee	Art Unit 2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,7,9,11,12,15,16,23-25,27-29,36,37,40,44,45 and 47-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,7,9,11,12,15,16,23-25,27-29,36,37,40,44,45 and 47-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 7, 9, 11, 12, 27, 29, 36, 37, 40, 44, and 47-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reber *et al.* (US 6,110,748) in view of Gordon (US 5,892,577) and Virtanen (US 6342349).

In regard to claims 1 and 48, Reber *et al.* disclose (Fig. 1) an apparatus comprising:

- (a) a frame (is inherent in positioning mechanism 42; column 4, lines 17-28);
- (b) a member (20) positioned on the frame and having a surface that is adapted to receive and hold the specimen (column 2, line 28 to column 3, line 7);
- (c) at least a first light source is inherent for emitting at least a first light beam towards the specimen held by the member (20) since fluorescence (see e.g., fluorescent members; column 3, lines 43-47) is defined¹ as the "emission of electromagnetic radiation, especially of visible light, stimulated in a substance by the absorption of incident radiation and persisting only as long as the stimulating radiation is continued";

¹ The American Heritage® Dictionary of the English Language, Third Edition copyright © 1992 by Houghton Mifflin Company. Electronic version licensed from INSO Corporation; further reproduction and distribution restricted in accordance with the Copyright Law of the United States. All rights reserved.

- (d) at least a detector (38) for detecting a light (*i.e.*, fluorescence) emitted from the marked objects (*i.e.*, fluorescent members; column 3, lines 43-47) upon interaction with the first light beam;
- (e) scanning means (42) for scanning the specimen in relation to the detector (38) along a non-linear curve (*e.g.*, spiral 152 in Fig. 12), wherein the scanning means comprises means (*i.e.*, rotary positioning mechanism; column 4, lines 17-28; column 9, lines 37-40) for rotating the member and means (*i.e.*, translational positioning mechanism; column 4, lines 17-28; column 9, lines 37-40) for displacing the member, so as to identify the position (*i.e.*, for random access; column 5, lines 1-9) of the marked objects and detect the property of the marked objects in the entire specimen, the means for rotating and the means for displacing being directly connected to the member (*i.e.*, a rotary positioning mechanism such as a spindle or a turntable, a translational positioning mechanism such as a conveyor, and/or a multiple degree of freedom positioning mechanism such as a robotic arm; column 4, lines 17-28), the member being rotatable and displaceable (*i.e.*, the step of positioning at least one of the device 20 and the detector 38 can include translating the device 20, rotating the device 20, translating the detector 38, and/or rotating the detector 38; column 9, lines 37-40); and
- (f) scanning control means (*e.g.*, processor 36) for controlling the scanning means (42) for scanning the specimen along the non-linear curve (column 5, lines 1-9).

While Reber *et al.* also disclose (column 3, line 56 to column 4, line 10) to provide an apparatus comprising a detector 38 and (column 5, lines 1-9) that the positioning

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mechanisms are operated to collect data in a sequential manner from sites along annular (e.g., circular 140 in Fig. 11) or spiral (e.g., spiral 152 in Fig. 12) tracks (column 3, lines 5-7), the apparatus of Reber *et al.* lacks a means for retrieving angular and radial coordinate position signals from a storage means wherein the scanning control means uses the retrieved position signals to place a microscope for viewing (*i.e.*, optical inspection) images at the position of the marked objects to allow performing a detailed examination of the marked objects so as to establish identity wherein the position signals stored in the storage means correspond to marked object detector signals stored in the storage means and that the first light source and the detector are arranged so that a part of a light beam path from the first light source to the specimen is co-axial with a part of the light emitted from the marked objects with the member displaced along a radius of the member rotation. First it should be noted that a spiral track is generated by relative translation along a radius of the rotary movement. Further, Gordon teaches (column 5, lines 28-31 and 64-67; column 8, lines 15-56; Fig. 1) a light beam path from a light source (8) to disc (1) that is co-extensive with a part of the light from the disc (1) to a detector (11) wherein the detected signal data are transferred to a computer via a means for sampling and digitizing the signals and that the detected object positions stored in a storage means are retrieved and used by a scanning means to position a means for optical inspection of detected objects (*i.e.*, "look again at specific region of interest"; column 5, lines 58-62; column 6, lines 4-10 and 19-32; column 7, line 55 to column 8, line 27) and how to precisely determine the angular position and the radial position (column 9, lines 15-23). In addition, Virtanen teaches (column 48, lines 41-63)

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that with proper software, optical disk readers are scanning confocal laser microscopes which allow the study and identification of the detailed structure of biological and other specimens (e.g., to detect several different cell types). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a conventional epifluorescence microscope (having a conventional optical arrangement wherein a light beam path from a light source to specimen is co-extensive with a part of the fluorescence emitted from the specimen) and conventional means for sampling and digitizing detector and position signals in the apparatus of Reber *et al.*, in order to obtain data from measurements of specimens along annular or spiral tracks by relative translation along a rotational radius suitable for storage and processing on a conventional computer with the capability to look at images of specific regions of interest (e.g., any desired target object) located at precisely determined angular and radial coordinates so as to identify several different types of cells.

In regard to claims **29**, **47**, and **49**, the method steps are implicit for the modified apparatus of Reber *et al.* since the structure is the same as the applicant's apparatus of claims 1 and 48.

In regard to claim **7** which is dependent on claim 1, Reber *et al.* also disclose (column 4, lines 17-28) that the member is positioned for rotation about an axis on the frame and wherein the means for rotating the member rotates the member about the axis.

In regard to claim **9** which is dependent on claim 1, Reber *et al.* also disclose (column 5, lines 1-9) that the scanning control means (e.g., processor 36) are adapted

to control the scanning means in such a way that the non-linear curve is a substantially circular curve (e.g., circular 140 in Fig. 11).

In regard to claim **11** (which is dependent on claim 1) and claim **37** (which is dependent on claim 36), while Reber *et al.* also disclose (column 3, lines 56-60; column 4, lines 4-10) a CD-ROM or DVD reader which provides signals for processing by a processor such as a computer (column 5, lines 1-22), the apparatus of Reber *et al.* lacks an explicit description of means for sampling and digitizing the detector signals and the position signals. Gordon teaches (column 8, lines 15-56) to transfer detected signal data to a computer via a means for sampling and digitizing the signals. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a means for sampling and digitizing the detector signals and the position signals in the apparatus of Reber *et al.*, in order to convert the data to a form suitable for processing by a computer.

In regard to claim **12** which is dependent on claim 1, Reber *et al.* also disclose (column 5, lines 1-22) signal processing means (e.g., processor 36) operatively connected to the detector (38) to detect a presence of an object based on the detector signals.

In regard to claim **27** which is dependent on claim 1, while Reber *et al.* also disclose (column 3, lines 56-60; column 4, lines 4-10) a CD-ROM or DVD reader, the apparatus of Reber *et al.* lacks an explicit description that the CD-ROM or DVD reader comprises a coherent light source. However, CD-ROM (*i.e.*, compact discs) readers are well known in the art. For example, Gordon teaches (column 5, lines 28-31 and 64-67)

that a conventional compact disc reader comprises a coherent light source. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention that the detector (e.g., a CD-ROM reader) in the apparatus of Reber *et al.* comprises a coherent light source.

In regard to claim **36** (which is dependent on claim 29), Reber *et al.* also disclose (column 5, lines 58-62) storage means (e.g., memory 49 or device 20) for storage of detector signals (related to the detected property) provided by the detector (38) and corresponding position signals (related to the current position of the member) provided by the scanning control means.

In regard to claim **40** which is dependent on claim 1, Reber *et al.* also disclose (column 3, lines 39-47) that the marked objects are marked with a fluorescent stain.

In regard to claim **44** which is dependent on claim 1, the apparatus of Reber *et al.* lacks that the detector comprises a CCD device. Gordon teaches (column 10, lines 7-19) to provide a CCD device for scanning a disc in order to obtain higher speed and higher resolution. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a CCD device as the detector in the apparatus of Reber *et al.*, in order to obtain higher speed and higher resolution.

3. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reber *et al.* (US 6,110,748) in view of Gordon (US 5,892,577) and Virtanen (US 6342349) as applied to claim 1 above, and further in view of Demers (WO 98/12559).

In regard to claims **15** and **16** which are dependent on claim 1, while Reber *et al.* also disclose (column 7, lines 59-62) a member such as a standard CD-ROM to receive and hold the specimen, the modified apparatus of Reber *et al.* lacks that the specimen has an area larger than 500 mm² (e.g., larger than 8000 mm²). However, standard CD-ROMs (*i.e.*, compact discs) are well known in the art. For example, Demers teaches (pg. 5, third paragraph) that a compact disc is a 5.5 inch disc. A ~15328 mm² area has a diameter of ~140 mm (5.5 inch). Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention that the ~15328 mm² area (*i.e.*, standard CD-ROM sized) member in the modified apparatus of Reber *et al.* is capable of receiving and holding specimens of ~15328 mm² area or less (e.g., larger than 500 mm² or 8000 mm²).

4. Claims 23-25, 28, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reber *et al.* (US 6,110,748) in view of Gordon (US 5,892,577) and Virtanen (US 6342349) as applied to claims 1 and 40 above, and further in view of Ekins *et al.* (Multianalyte microspot immunoassay-microanalytical "compact disk" of the future, *Clinical Chemistry*, Vol. 37, no. 11 (1991), pp. 1955-1967).

In regard to claims **23-25** which are dependent on claim 1, the modified apparatus of Reber *et al.* lacks that a mask is inserted in the optical path between the specimen and the detector, wherein the mask comprises at least one transparent aperture having a substantially rectangular shape with at least one dimension of the aperture, as projected on the specimen, between 0.75 and 2 times the dimensions of objects to be detected. Ekins *et al.* teach (left column on pg. 1964) that the highest

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signal/noise ratio is observed when the instrument field of view is restricted to a microspot area. Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide an aperture in the modified apparatus of Reber *et al.* to restrict the field of view to substantially a microspot area (*i.e.*, matching size and shape), in order to detect fluorescent members with a desired signal/noise ratio.

In regard to claim **28** which is dependent on claim 1, the modified apparatus of Reber *et al.* lacks that the first light beam is adapted provide a light spot having a diameter between 20-150 μm on the specimen. Ekins *et al.* teach (left column on pg. 1963) that as the area decreases, the signal/noise ratio increases and approaches a maximum value of 60 as the area falls below 0.01 mm^2 . A 0.01 mm^2 area has a diameter of 112 μm . Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention to provide a light spot having a diameter between 20-150 μm (*e.g.*, 112 μm) on the specimen in the modified apparatus of Reber *et al.*, in order to detect fluorescent members with a desired signal/noise ratio.

In regard to claim **45** which is dependent on claim 40, while Reber *et al.* also disclose (column 3, lines 39-47) the detection of fluorescent members, the modified apparatus of Reber *et al.* lacks that the fluorescent marker is Fluorescein. However, fluorescent markers such as fluorescein are well known in the art. For example, Ekins *et al.* teach (left column on pg. 1965) that fluorescein fluorescent markers (*e.g.*, FITC) are commercially available. Therefore it would have been obvious to one having

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ordinary skill in the art at the time of the invention that the fluorescent members in the modified apparatus of Reber *et al.* is a known fluorescent member (e.g., Fluorescein).

Response to Arguments

5. Applicant's arguments filed 6 July 2006 have been fully considered but they are not persuasive.

Applicant argues (last two paragraphs on pg. 10 of remarks filed 6 July 2006) that there is no motivation to combine the references since it is unnecessary and of no use for Reber *et al.* to store or retrieve the position of the molecular receptors because the position of the molecular receptors is of no importance. Examiner respectfully disagrees that the position of the molecular receptors is of no importance. Reber *et al.* state (column 5, lines 1-9) that "The processor 36 directs the operation of the positioning mechanisms 42, 44, 46, and 48, the data reader 34, the detector 38, and the data writer 40 to collect data from a plurality of sites and to write data to the device 20. The processor 36 can direct the operation of the aforementioned components to collect data in a sequential manner or in a random access manner. The processor 36 can include a computer or other like processing apparatus to direct the operation of the system". Thus the positioning devices (e.g., 42, 44, 46, 48) of Reber *et al.* are used to position a variety of devices (e.g., 34, 38, 40) at the plurality of sites. It is important to recognize that collecting data in a random access manner requires selective positioning of the variety of devices (e.g., 34, 38, 40) at the desired site for data collection and wherein selective positioning inherently implies that the site positions are known by processor 36. That is, the position of site A must be known in order for the scanning

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control means (e.g., processor 36) to direct the variety of devices (e.g., 34, 38, 40) to the position of site A. Therefore, the position of the sites must be known by the processor in order for the processor of Reber *et al.* to direct the operation of the aforementioned components (e.g., to arrange the detector 38 at a known position of a desired site) to collect data in a sequential manner or in a random access manner.

Applicant argues (second paragraph on pg. 11 of remarks filed 6 July 2006) that Gordon's re-scanning cannot place any microscope at the position of the detected object, but simply repeats the scanning to a selected area and thus Gordon fails to teach the scanning control means provides the position signals as recited in claims 1 and 29, and also fails to teach storing and retrieving the position signals provided by the scanning control means as recited in claims 1 and 29. Examiner respectfully disagrees. Gordon states (column 6, lines 4-10) that "The system of FIG. 1 is adequate for obtaining an image of the disc surface, or a portion of that surface when the actual location of the portion itself is no significance. However, it may be desirable to be able to scan a selected area of the disc surface, for example where an ELISA has been carried out only in that region, or when it is desired to look again at a specific region of interest". Thus Gordon expressly teaches obtaining images of either the entire disc surface or a selected portion thereof and that the position of said selected portion (*i.e.*, specific region of interest) is known so as to allow looking again at the specific region of interest. It should be recognized that an image clearly illustrates the spatial relationships (*i.e.*, relative positions) of marked objects in the image. In addition, the position of the image is also known since it may be desirable to look again at the same

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image (*i.e.*, specific region of interest). Examiner respectfully disagrees that Gordon does not teach placing a detector at the position of the marked object. Gordon states (column 9, lines 28-33) that "Rather than scan the whole surface of the disc, the personal computer may be arranged to step the light source/detector arrangement over the disc surface from one well to another. This is enabled by the precise position information obtained from the calibration marking and the disc edge". Thus Gordon expressly teaches stepping the light source/detector arrangement over the disc surface from one well to another using precise position information.

Applicant argues (first two paragraphs on pg. 12 of remarks filed 6 July 2006) that the combination of references fails to teach a microscope for viewing images of the marked objects and place the microscope at the position of the marked objects to allow a user to view the images of the marked objects via the microscope as recited in claim 1 and optically inspecting the object by viewing an image of the object via the microscope by a user as recited in claim 29. Examiner respectfully disagrees. First it is noted that pending claims must be given their broadest reasonable interpretation consistent with the specification (MPEP § 2111) and the specification (pg. 14, lines 27-28) disclose that "... the scanning control means may be adapted to place an automated microscope at the position of any desired target object". Thus microscope as recited in the claims is any of the known microscopes such as a scanning confocal laser microscope which forms a viewable image by scanning. Further, Virtanen states (column 48, lines 41-56) that "Although they have not previously been so recognized or described, optical disk readers are, in essence, scanning confocal laser microscopes. As such, they can be

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used, with proper software, to study the detailed structure of biological and other specimens. Cell counting and cell shape measurement are two examples of these applications. FIG. 33 depicts one geometry, based upon this principle, useful for detecting eukaryotic cells. The detection of eukaryotic cells in the present invention is best performed by attaching, directly to the device substrate surface, a first structure capable of recognizing and binding to the desired cells, such as an antibody. A second structure capable of recognizing and binding to the desired cells, such as a second antibody, is attached directly to the surface of a signal responsive moiety, such as a metal microsphere". Thus Virtanen expressly teaches a optical disk reader is a scanning confocal laser microscope. Virtanen further states (column 50, lines 1-3) that "By labeling the surface of cells relatively uniformly, their individual sizes and shapes can be measured by the optical disk drive functioning as a scanning confocal microscope". Thus Virtanen expressly teaches measuring cell size and cell shape by an optical disk drive functioning as a scanning confocal laser microscope. Therefore, the optical disk reader of Virtanen is used to view the image of the cells stained by e.g., signal responsive moieties (*i.e.*, the cells are made viewable by stains such as signal responsive moieties).

Applicant argues (third paragraph on pg. 12 to second paragraph on pg. 15 of remarks filed 6 July 2006) that Reber *et al.* do not scan a medium to search for marked objects since Reber *et al.* position a data reader at the position of machine-readable data and the detector then senses whether a binding event has taken place at the position of said machine-readable data. Examiner respectfully disagrees. Reber *et al.*

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to scan a medium to search for marked objects (*i.e.*, tagged molecules in a specimen which localize to a binding site, and/or hybridization site, and/or recognition sites, and/or molecular detection sites, etc.). It is important to recognize that knowing the identity of a binding (or hybridization, recognition, molecular detection, etc.) site does not eliminate the requirement to scan all sites to determine which sites have (or do not have) a particular marked object.

Applicant argues (third and forth paragraphs on pg. 15 of remarks filed 6 July 2006) that Reber *et al.* fail to teach that the processor 36 provides any position signals of the molecular receptors 22 and 24 receiving the corresponding molecule structures since the molecular species are arranged in a pattern across the medium and the processor 36 of Reber *et al.* simply obtain the information provided by the detector 38 to control the positioning mechanism. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, how the scanning control means obtains the position data) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In this case it is important to recognize that how the position data is obtained by the scanning control means is a different issue from whether position data is provided by the scanning control means. Further as discussed above, the position of the sites must be known by the processor in order for the processor of Reber *et al.* to direct the operation of the aforementioned components (*e.g.*, to arrange the detector 38 at a

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known position of a desired site) to collect data in a sequential manner or in a random access manner.

Applicant argues (last paragraph on pg. 15 of remarks filed 6 July 2006) that the information of the position of any object is not provided by any scanning control means, but is merely given by detecting (using the detector) the information located on the medium holding the specimen. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, how the scanning control means obtains the position data) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Moreover, Examiner respectfully disagrees that the position of any object is given by detecting (using the detector) the information located on the medium holding the specimen. Identity information is different from position information. For example, the name of a person is not the same as the location of a person. In order to read the information on the medium holding the specimen, the position at which the information located must be either determined or known so as to allow positioning of the detector at the appropriate location to read the information.

Applicant argues (second and third paragraphs on pg. 16 of remarks filed 6 July 2006) that it is unnecessary for Reber *et al.* to store or retrieve the position of the molecular receptors because the position of the molecular receptors is not important in Reber *et al.* Examiner respectfully disagrees. As discussed above, the position of the

sites must be known by the processor in order for the processor of Reber *et al.* to direct the operation of the aforementioned components (e.g., to arrange the detector 38 at a known position of a desired site) to collect data in a sequential manner or in a random access manner.

Applicant argues (third paragraph on pg. 16 to first two paragraphs on pg. 17 of remarks filed 6 July 2006) that information such as the length and direction of the movement of the data reader from one event to the next is completely different from information of position of a marked object on the medium. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, the position data form) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). In this case, length and direction of the movement is position data. That is, moving a detector to Δx and Δy (e.g., length and direction of the movement of the data reader) from a current position of x_0 and y_0 is equivalent to moving a detector to x_1 and y_1 when $x_1 = x_0 + \Delta x$ and $y_1 = y_0 + \Delta y$. Further as discussed above, the position of the sites must be known by the processor in order for the processor of Reber *et al.* to direct the operation of the aforementioned components (e.g., to arrange the detector 38 at a known position of a desired site) to collect data in a sequential manner or in a random access manner.

Applicant argues (third paragraph on pg. 17 of remarks filed 6 July 2006) that the position of the wells are predetermined and cannot be compared to the random position

of marked objects in a specimen spread over a member. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, random position of marked objects in a specimen spread over a member) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues (last two paragraphs on pg. 17 to second paragraph on pg. 18 of remarks filed 6 July 2006) that there is no disclosure in Gordon that scanning or re-scanning is controlled by retrieving position information, wherein said position information is provided by the scanning control means since address information is positioned on the disc. Examiner respectfully disagrees. It should be noted that a series of addresses positioned on the disc does not negate the need to know which address to go to. For example to revisit a selected one of a plurality of houses wherein each have different numbers, the appropriate house number must be obtained in order to revisit the right house.

Applicant argues (third paragraph on pg. 18 of remarks filed 6 July 2006) that scanning a "region of interest" is different from performing a detailed examination of a "detected object", since each region may comprise a variety of objects. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, a detailed examination of only a single detected object) are not recited in the rejected claim(s).

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). For example, amended independent claim 1 recites performing a detailed examination of the marked objects.

Applicant also argues (third paragraph on pg. 18 of remarks filed 6 July 2006) that rescanning a region of interest is different from placing a microscope at the position of the marked object as recited in claim 1 and 29. Examiner respectfully disagrees. It should be noted that a microscope is an optical instrument consisting of a lens or combination of lenses for making enlarged images of minute objects. Further, microscopes which obtain images by scanning are commercially available and well known in the art (*e.g.*, see column 48, lines 41-63 of Virtanen). As discussed above, Gordon expressly teaches obtaining images by scanning. Further, Gordon states (column 2, lines 47-49) that "The system is also suited to carrying out histological analysis and to the quantitative study of gels run using electrophoresis" and (column 1, lines 29-32) that "Similar techniques are also used in general histology to visualise specific areas of tissue, *e.g.* particular cell types or cell structures, as well as in cell culture". Thus it is clear that the system of Gordon is also suited to carrying out histological analysis (*i.e.*, a detailed examination) of cell structures.

Applicant argues (fourth paragraph on pg. 18 of remarks filed 6 July 2006) that one difference is that rescanning is performed using scanning means and not a microscope. Examiner respectfully disagrees. As discussed above, microscopes which obtain images by scanning are commercially available and well known in the art.

Applicant also argues (fourth paragraph on pg. 18 of remarks filed 6 July 2006) that the term "scanning" implies that no accuracy is present. Examiner respectfully disagrees. As discussed above, the system of Gordon is also suited to carrying out histological analysis (*i.e.*, a detailed examination) of cell structures.

Applicant further argues (fourth paragraph on pg. 18 of remarks filed 6 July 2006) that Gordon does not teach obtaining a view of a single detected marked object on the disc surface. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, a detailed examination of only a single detected object) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues (fifth paragraph on pg. 18 of remarks filed 6 July 2006) that Gordon does not disclose object positions stored in a storage means are retrieved and used by a scanning means to position a means for optical inspection of detected object. Examiner respectfully disagrees. As discussed above, the position must be obtained in order to look again at the same specific region of interest.

Applicant argues (first paragraph on pg. 19 of remarks filed 6 July 2006) that calibration is conducted using information located in the disc, not provided by the scanning control means. Examiner respectfully disagrees. As discussed above, how the position data is obtained by the scanning control means is a different issue from whether position data is provided by the scanning control means.

Applicant argues (second and third paragraphs on pg. 19 of remarks filed 6 July 2006) that identification or address information is located on the disc must be removed when combining Reber *et al.* and Gordon, in order to reach the feature that position signals are provided by the scanning control means. Examiner respectfully disagrees. As discussed above, how the position data is obtained by the scanning control means is a different issue from whether position data is provided by the scanning control means.

Applicant argues (last paragraph on pg. 19 of remarks filed 6 July 2006) that the system and method of Virtanen have predetermined positions of the cell-type specific recognition element, wherein possible events may be detected and thus does not disclose that marked objects randomly located on the member may be identified. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (*i.e.*, random position of marked objects in a specimen spread over a member) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Applicant argues (second and third paragraphs on pg. 20 of remarks filed 6 July 2006) that the optical disk reader of Virtanen cannot perform an optical inspection of identified marked objects since the only information obtained by the optical disk reader is information about staining. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the

features upon which applicant relies (*i.e.*, information about unstained objects) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). For example, amended independent claim 1 recites performing a detailed examination of the marked objects.

Applicant argues (last paragraph on pg. 20 to second paragraph on pg. 21 of remarks filed 6 July 2006) that Virtanen does not disclose a microscope for a detailed examination of a detected object, when the term “a detailed examination” is interpreted in the context of the present invention. Examiner respectfully disagrees. The specification discloses (pg. 14, lines 28-30) that “Thereby, a medical doctor or a laboratory technician is capable of performing a detailed examination of the target object to e.g. establish its identity”. Thus “a detailed examination” within the context of the present invention is a histological analysis by a medical doctor or a laboratory technician. As discussed above, the system of Gordon is suited to carrying out histological analysis (*i.e.*, a detailed examination) of cell structures. Further it is submitted that a scanning confocal laser microscope can also be used for histological analysis (e.g., cell shape measurement as argued by applicant).

Applicant argues (last paragraph on pg. 21 of remarks filed 6 July 2006) that the combination of references does not disclose all the features of the claims and must extrapolate the combination of references by stating that for the skilled person it would be obvious to provide a conventional microscope. Examiner respectfully disagrees. As

discussed above, it would have been obvious to one of ordinary skill to provide a conventional microscope (e.g., the conventional microscope of Gordon and/or Virtanen).

Applicant argues (second paragraph on pg. 22 of remarks filed 6 July 2006) that none of the cited references will be able to solve the problem with randomly positioned events. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., randomly positioned events) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shun Lee whose telephone number is (571) 272-2439. The examiner can normally be reached on Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SL



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